Brickcom

Hardware User's Manual

Megapixel Day & Night
Fixed Box Network Camera
Quality Service Group

Fixed Box Series

Review History:

1. Separate User Manual into HW and SW.

2. Merge FB-100Ap/FB-100Ae/FB-130Np Series into this User Manual.

Product name:	Network Camera (Fixed Box series)
Release Date:	2011/12
Manual Revision:	V3.0
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Before You Use This Product

In many countries, there are laws prohibiting or restricting the use of surveillance devices. This Network Camera is a high-performance, web-ready camera which can be part of a flexible surveillance system. It is the user's responsibility to ensure that the operation of this camera is legal before installing this unit for its intended use.

Upon opening the product's package, verify that all the accessories listed on the "Package Contents" are included. Before installing the Network Camera, read the warnings in the "Quick Installation Guide" to avoid misuse. When installing the Network Camera, carefully read and follow the instructions in the "Installation" chapters to avoid damages due to faulty assembly or installation.

Regulatory Information

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE :

FCC Radiation Exposure Statement :

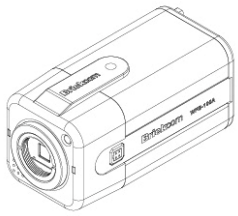
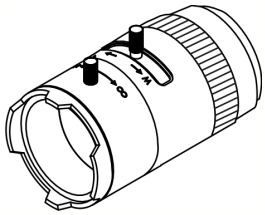
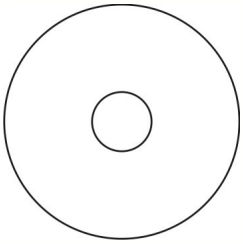
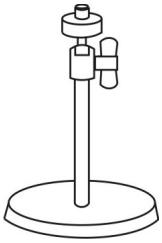
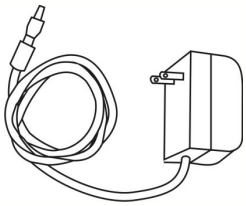
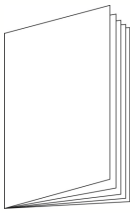
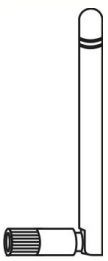
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Chapter 1- Package Contents

Please check to make sure that the product package contains all the accessories listed below.

a. Network Camera 	b. CS mount Lens (Optional) 
c. Product CD 	d. Camera Stand 
e. Warranty Card	f. Allen Key
g. Power Adapter (Optional) 	h. Easy Installation Guide 
i. Detachable Antenna (Optional) 	

Chapter 2- Fixed Box Network Camera Overview

The Brickcom Fixed Box series offers a reliable and efficient solution for 24-hour video surveillance. The Fixed Box series offers highly efficient H.264 video compression, which reduces bandwidth and storage requirements without compromising image quality. M-JPEG and MPEG-4 are also supported for flexibility.

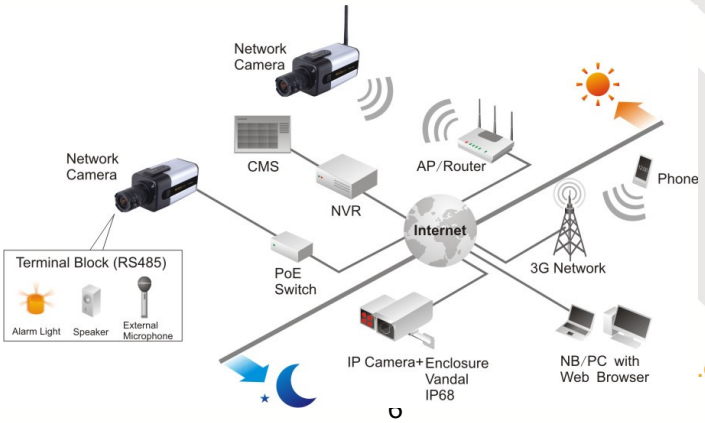
With the megapixel progressive sensor and removable IR-cut Filter, this series delivers extremely clear and detailed images that CCTV cameras cannot offer. The internal SD/SDHC memory card slot allows for local storage, which prevents data loss if the data connection is lost. Users can view live feed anywhere by internet browser or 3G mobile phone. Also, the Fixed Box series can transmit the video to portable devices through other technology, such as WiMax, NAS, Digital Frame and power line.

The Fixed Box series receives power through the same cable as for data transmission. This makes installation easy because there is no external power supply needed.

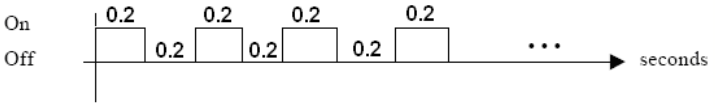
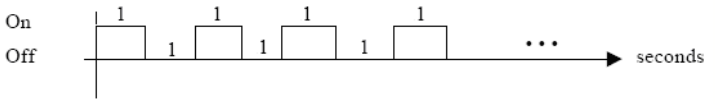
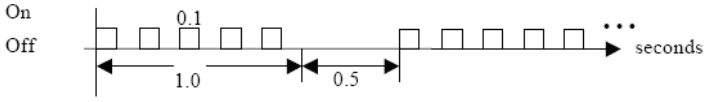
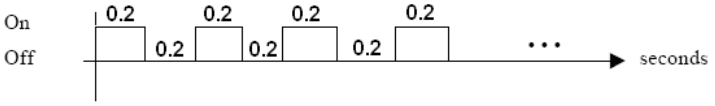
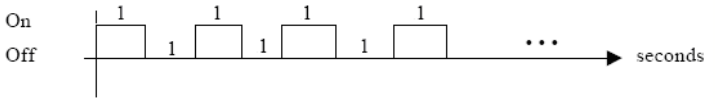
For easy setup, the Fixed Box series offers a step-by-step installation package. "Easy Config" makes the configuration simple even for users without an IT background.

With IEEE 802.11 a/b/g/n wireless compliance, network installation is not restricted by location or landforms. The Wireless Fixed Box series can be installed in any location with wireless coverage. It can easily be used to cover remote districts and historic spots.

In addition to the motion detection function, the Fixed Box advanced Series can also support Intelligent Video Analysis which can be used for applications such as object tracking, people counting, and forbidden region alarm.

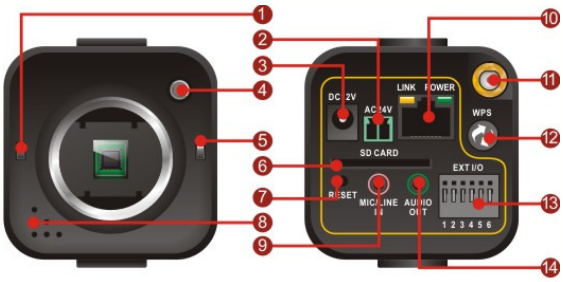


Chapter 3-LED Behavior

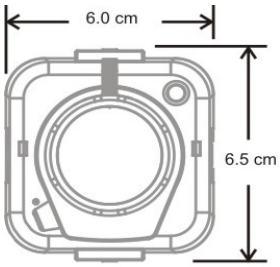
Function	LED Behavior	Description	Remark
WPS		WPS in progress	Wireless Fixed Box Front Right (Blue)
WPS		WPS Connection Error	Wireless Fixed Box Front Right (Blue)
WPS		Session overlap detected	Wireless Fixed Box Front Right (Blue)
WPS	Steady on	WPS Successfully Connected	Wireless Fixed Box Front Right (Blue)
Status		Hardware failure	Front Left (Green)
Status	Continuous Illumination	1. Restoring settings 2. Normal Operation	Front Left (Green)
Status	Unlit	1. Power Off 2. Power On until System setup	The LED can be configured to be unlit during normal operation (Green)
Status		While F/W upgrading	Front Left (Green)
Link	Blinking	Blinking while connecting to the network	Rear Left (Orange)
Link	Unlit	No connection	Rear Left (Orange)
Power	Continuous Illumination	Normal Operation	Rear Right (Green)
Power	Unlit	Power off	Rear Right (Green)

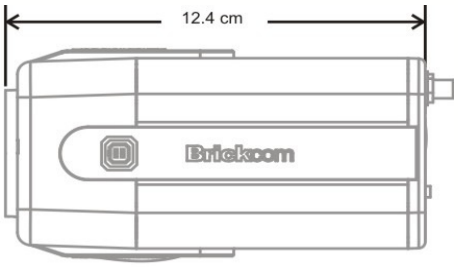
Chapter 4- Device Appearance Description

Photo Indication & Dimension Diagram



1. Status LED
2. Power Connector (AC24V In)
3. Power Connector (DC24V In)
4. Light Sensor
5. WPS LED
6. SD/SDHC Card Slot
7. Reset Button
8. Build-in Microphone
9. Microphone/Line In
10. Ethernet RJ45 10/100 Socket (Link/Power LED embedded)
11. Detachable Antenna
12. WPS Button
13. Extension I/O Terminal Block
14. Audio Out
15. Auto Iris Connector



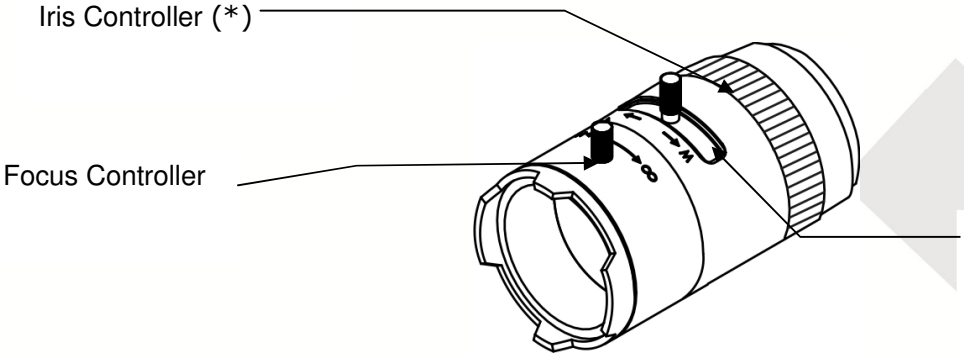


NOTE

1. The WPS buttons must first be enabled through the web GUI in order to work. See WPS page for details on how to enable the WPS Button.
2. (*) These are optional features. Please refer to the Product List for the full list of optional features available for the product.

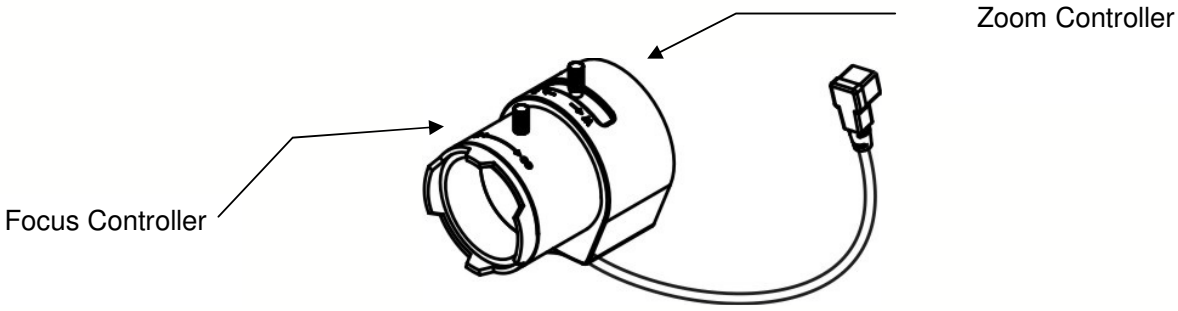
CS Mount Lens -Optional

<Vari-focal Lens with Manual Iris> --- CS Mount



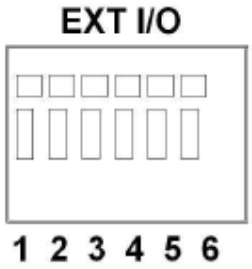
<Optional Lens>

<Vari-focal Lens with Auto Iris> (DC Drive) --- CS Mount



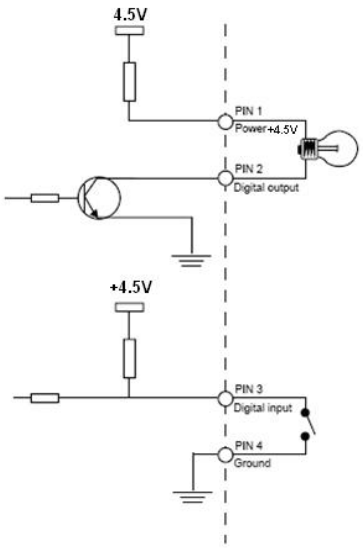
Extension I/O Terminal Block

The Network Camera provides an extension I/O terminal block which is used to connect the camera with external input/output devices. The pin definitions are listed as below.

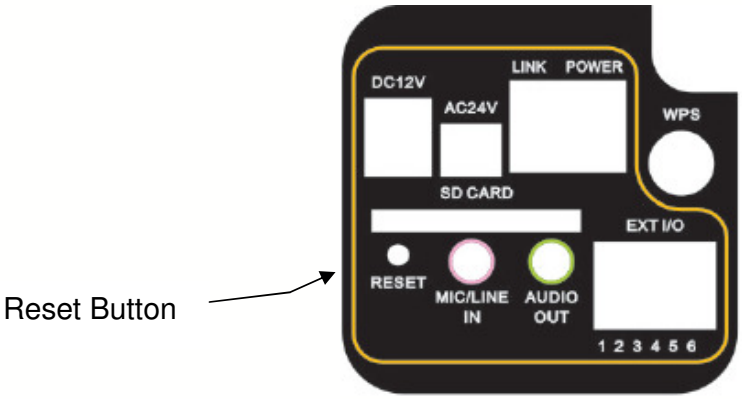


Pin	Function
1	Power +5V
2	Digital Output
3	Digital Input
4	Ground
5	RS-485 -
6	RS-485 +

DI/DO Diagram



Hardware Reset



The Reset Button can be used to reboot the camera or restore it to factory default settings. If the camera experiences a problem, rebooting the camera may correct the problem. If the problem remains, please restore the camera to factory default settings and reinstall the software.

To Reboot - Press and hold the Reset Button for one second using a paper clip or thin object. Wait for the camera to reboot.
To Restore – Press and hold the Reset Button for ten seconds until the LED light turns off. When successful restored, the LED will be blue during normal operation.

Note - By restoring the camera, all settings will be restored to the factory default settings.

SD Card Capacity (*)
The network camera is compatible with SD/SDHC (Maximum 32GB) cards.

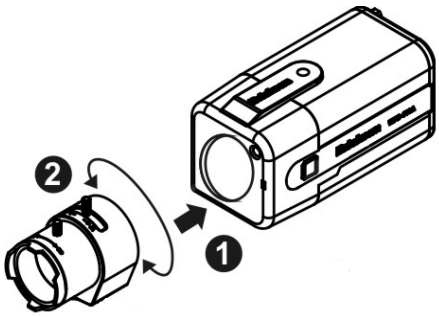
(*) These are optional features. Please refer to the Product List for the full list of optional features that are available for this product

Chapter 5- Installation

5.1 Hardware Installation

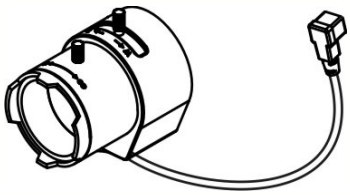
Mounting the CS-Mount Lens to the Camera
<Vari-focal Lens with Manual Iris> --- Optional Lens

Connect the CS-mount lens to the camera by turning it clockwise onto the camera mount until it stops.
If necessary, adjust the iris controller, focus controller, and zoom controller to get the best resolution.



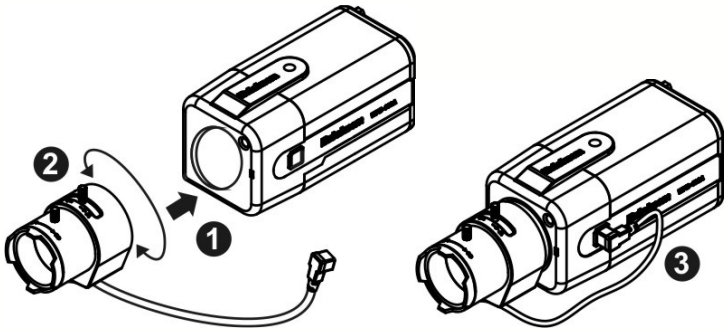
To adjust the lens:

Adjust the iris ring controller to control the amount of light coming through the lens. The more the iris is opened, the brighter the scene will be.
The zoom controller can be manually adjusted to control the zoom factor on the camera. Users can create a tighter or wider view of the site being recorded.
Adjust the focus controller to control the focus range of the lens.



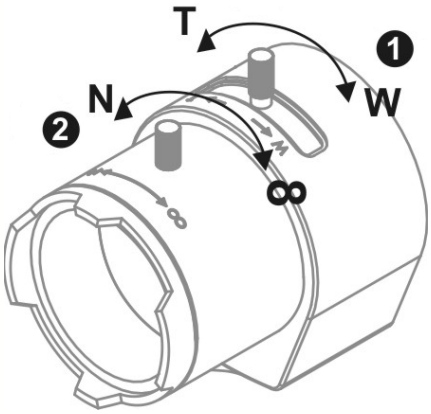
<Vari-focal Lens with Auto Iris> --- Optional Lens

Connect the CS-mount lens to the camera by turning it clockwise onto the camera mount until it stops.
If necessary, adjust focus controller, and zoom controller to get the best resolution.
Connect the lens cable plug (DC Iris control cable) to the camera side connector.



To adjust the lens:

The zoom controller can be manually adjusted to control the zoom factor on the camera. Users can create a tighter or wider view of the site being recorded.
Adjust the focus controller to control the focus range of the lens.



*For further information of vari-focal lens with auto iris, please refer to the supplied lens' instruction manual.

5.2 System Requirements

Operating System:
Microsoft Windows XP Home Edition SP2
Microsoft Windows XP Professional SP2
Computer:
IBM PC/AT Compatible
CPU:
Pentium 3GHz or faster
Memory:
1024 MB or more
Monitor:
1024 x 768 pixels or more, 24-bit True color or better
Network Interface:
10/100Mbps Network interface card must be installed
Web Browser:
Microsoft Internet Explorer 6.0 SP2 or higher
Adobe Reader:
Adobe Reader 8.0 or higher
Audio:
The audio function will not work if a sound card is not installed in the PC. Audio may be interrupted depending on network traffic.

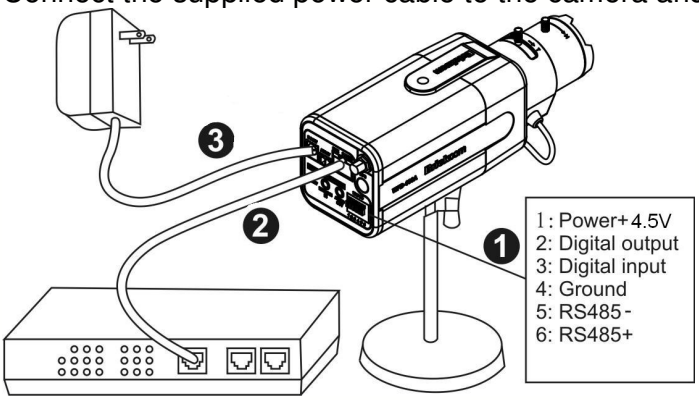
5.3 Camera Connection

Basic Connection (Without PoE)

To attach external devices, such as sensors and alarms, connect them to the extension I/O terminal block.

Connect the camera to a switch using an Ethernet cable.

Connect the supplied power cable to the camera and plug it into a power outlet.



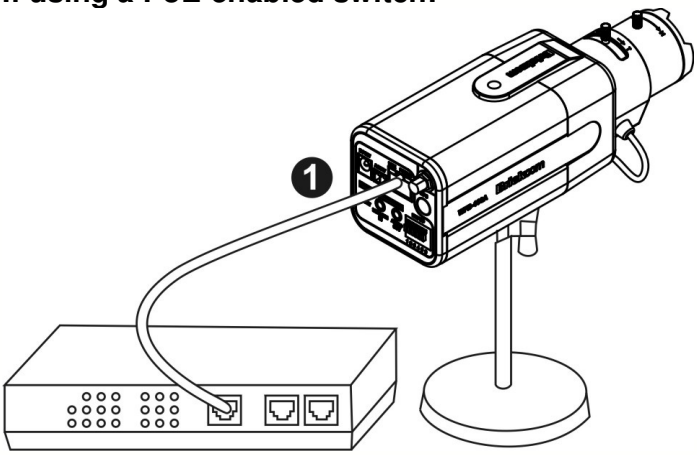
Depending on the user's application, an Ethernet cable may be needed. The Ethernet cable should meet the specs of UTP Category 5 and not exceed 100 meters in length.

When powering up, the power LED will light up and the camera will boot up. The link LED will be an illuminate as amber when obtaining the IP address. After obtaining the IP address, the link LED will flash orange while the network connection is processing.

Power over Ethernet (PoE) Connection

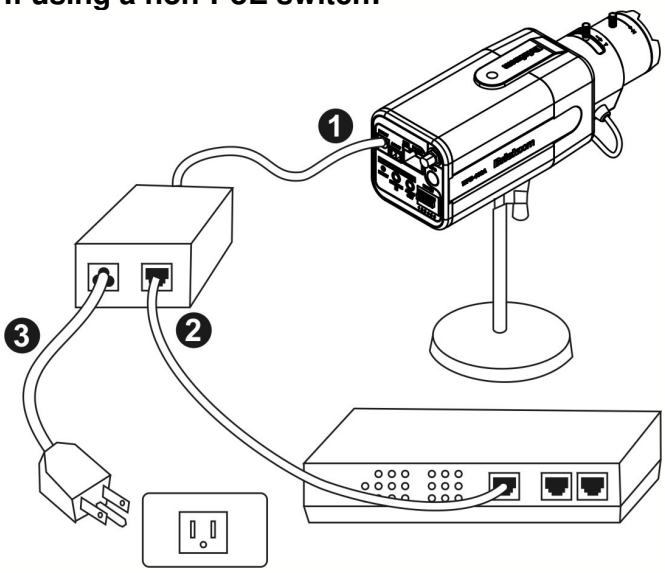
The Fixed Box is PoE compliant, so there are two options for connecting the camera to a power and Ethernet source. The camera can either be connected to a PoE-enabled switch or a non-PoE switch.

If using a PoE-enabled switch:



Use a single Ethernet cable to connect the camera to the PoE-enabled switch.

If using a non-PoE switch:



Use a standard RJ-45 cable to connect the camera to a PoE Injector.
Use a standard RJ-45 cable to connect the PoE Injector to the non-PoE switch.
Use a standard power cable to connect the PoE Injector to a power outlet.

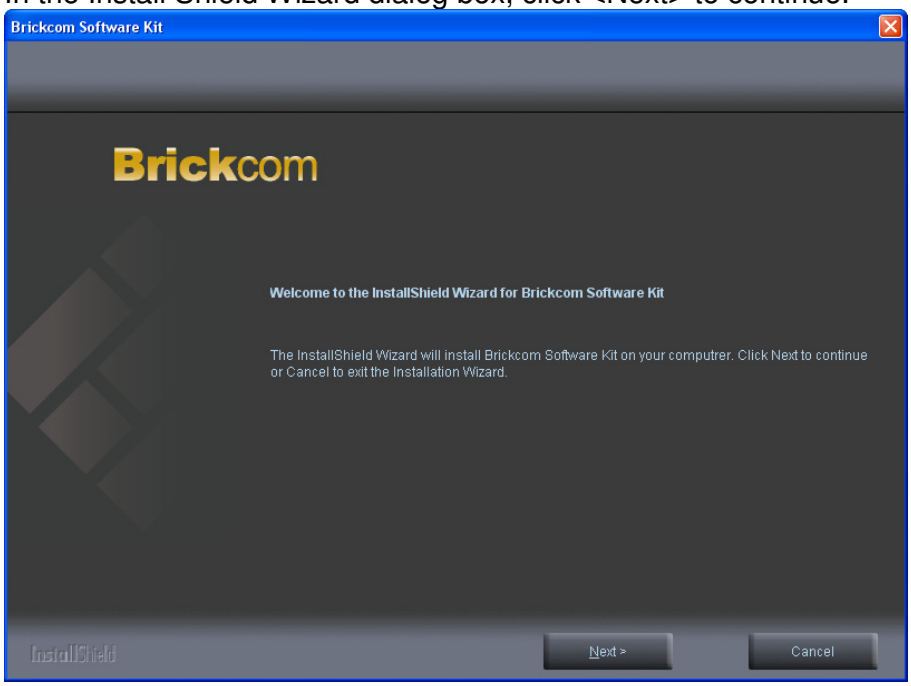
Software Installation

In this manual, "User" refers to whoever has access to the Network Camera, and "Administrator" refers to the person who can configure the camera and grant user access to the camera.

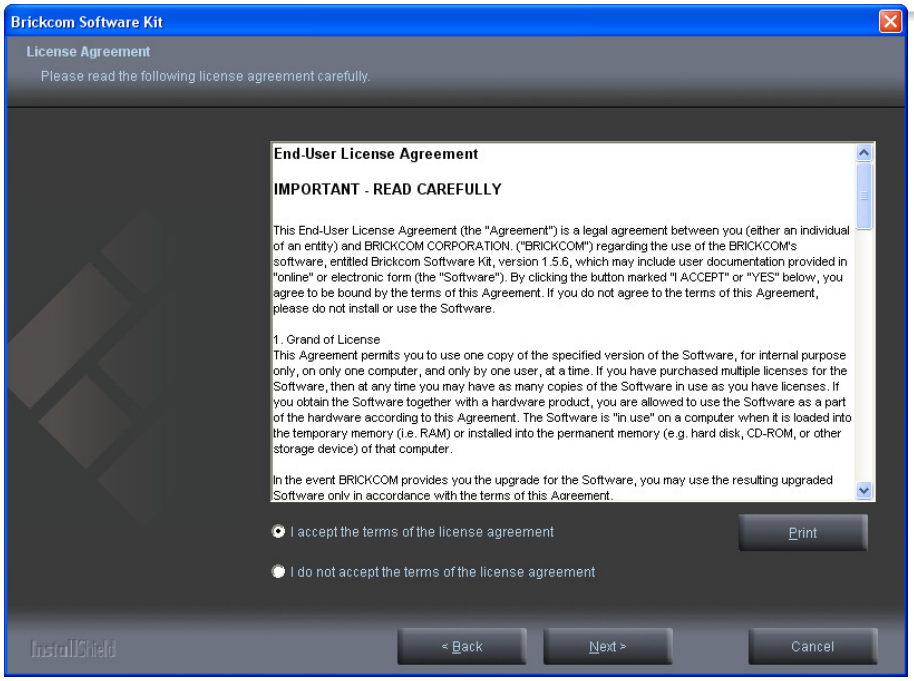
After checking the hardware connection, run the Installation Wizard program included on the product's CDROM to automatically search the intranet for the camera. There may be many cameras on the local network. Differentiate the cameras using the serial number which is printed on the labels on the carton and the bottom of the camera.

Insert the Installation CD into the CD-ROM driver. Run Auto-Run Tool directly from the CD-ROM to start the installation. When installing the Brickcom software kit for the first time, select a desired language for the interface. The available languages are listed in the scroll box. Click <**Install**> and follow the steps to install the EasyConfig wizard on the desired computer.

In the Install Shield Wizard dialog box, click <Next> to continue.


Brickcom Software Kit
Brickcom
Welcome to the InstallShield Wizard for Brickcom Software Kit
The InstallShield Wizard will install Brickcom Software Kit on your computrer. Click Next to continue or Cancel to exit the Installation Wizard.
InstallShield
Next >
Cancel

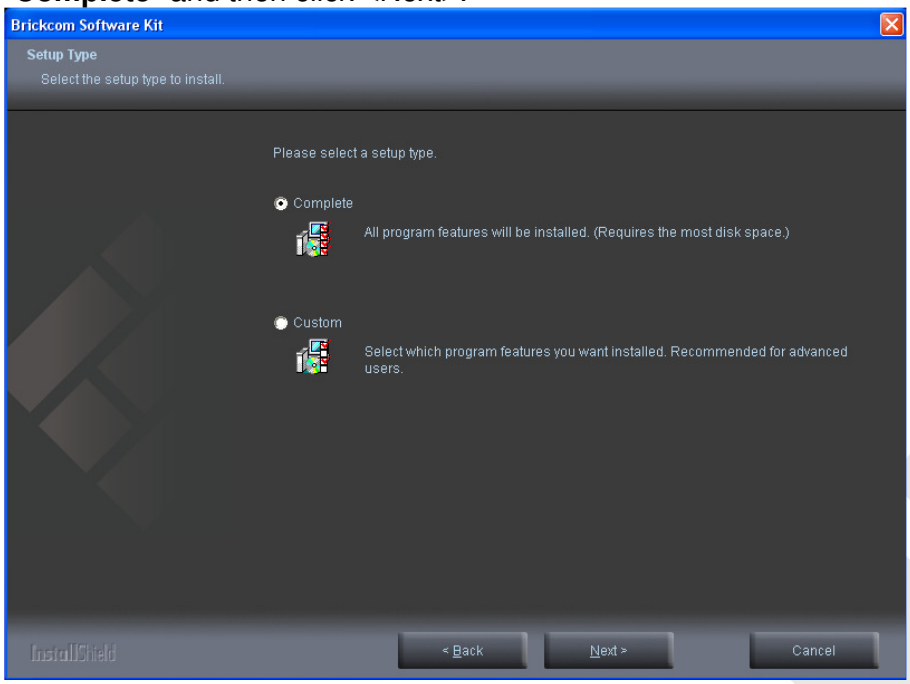
Read the End-User License Agreement and check the option “I accept the terms of the license agreement”. Click <Next> to continue.


Brickcom Software Kit
License Agreement
Please read the following license agreement carefully.
End-User License Agreement
IMPORTANT - READ CAREFULLY
This End-User License Agreement (the "Agreement") is a legal agreement between you (either an individual of an entity) and BRICKCOM CORPORATION. ("BRICKCOM") regarding the use of the BRICKCOM's software, entitled Brickcom Software Kit, version 1.5.6, which may include user documentation provided in "online" or electronic form (the "Software"). By clicking the button marked "I ACCEPT" or "YES" below, you agree to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, please do not install or use the Software.
1. Grand of License
This Agreement permits you to use one copy of the specified version of the Software, for internal purpose only, on only one computer, and only by one user, at a time. If you have purchased multiple licenses for the Software, then at any time you may have as many copies of the Software in use as you have licenses. If you obtain the Software together with a hardware product, you are allowed to use the Software as a part of the hardware according to this Agreement. The Software is "in use" on a computer when it is loaded into the temporary memory (i.e. RAM) or installed into the permanent memory (e.g. hard disk, CD-ROM, or other storage device) of that computer.
In the event BRICKCOM provides you the upgrade for the Software, you may use the resulting upgraded Software only in accordance with the terms of this Agreement.
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

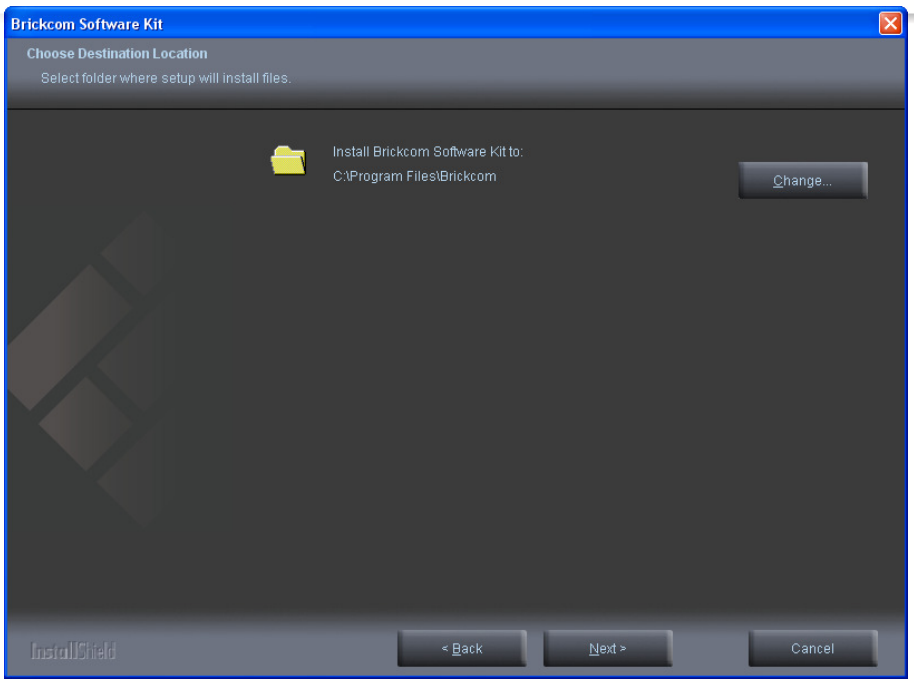
Select either “Complete” setup or “Custom” setup to install the system.

If COMPLETE SETUP is selected:

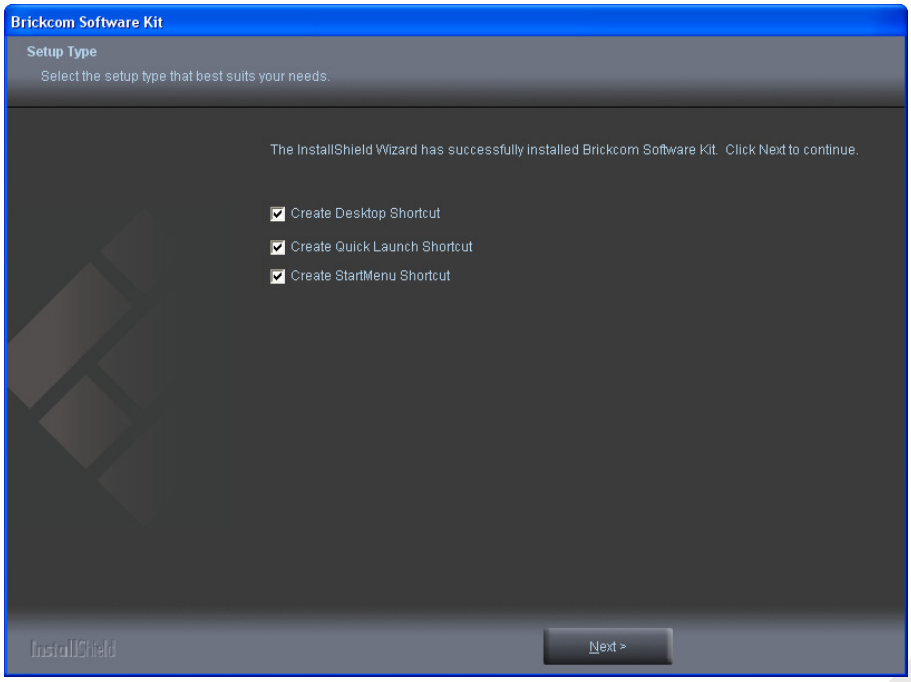
All program features will be installed into the default directory. Check the option “**Complete**” and then click <Next>.


Brickcom Software Kit
Setup Type
Select the setup type to install.
Please select a setup type.
Complete
All program features will be installed. (Requires the most disk space.)
Custom
Select which program features you want installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

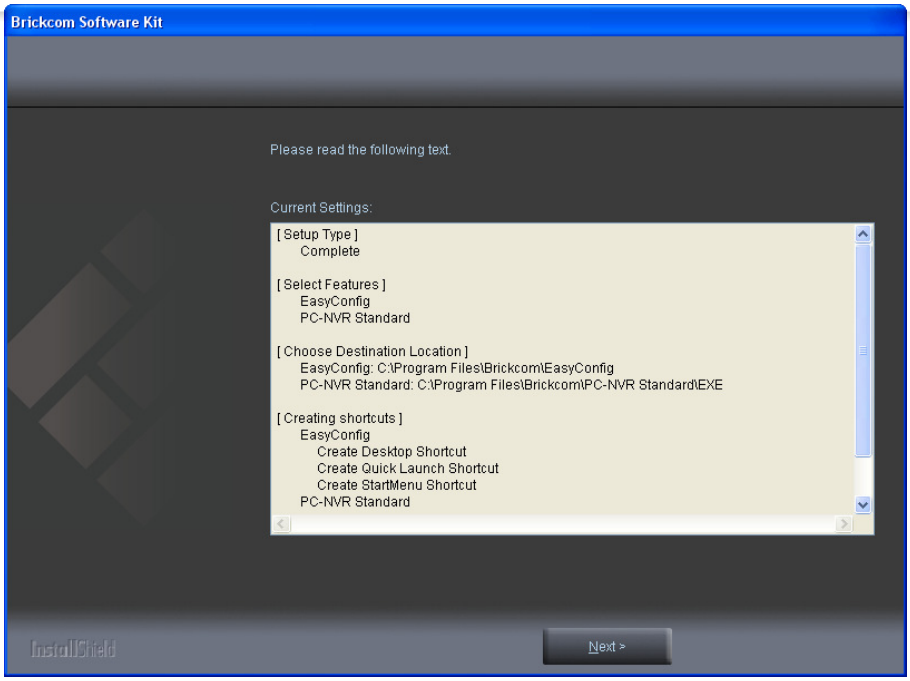
Click <Change> to change the appointed folder where installation and program files will be stored.
Click <Next> to continue.



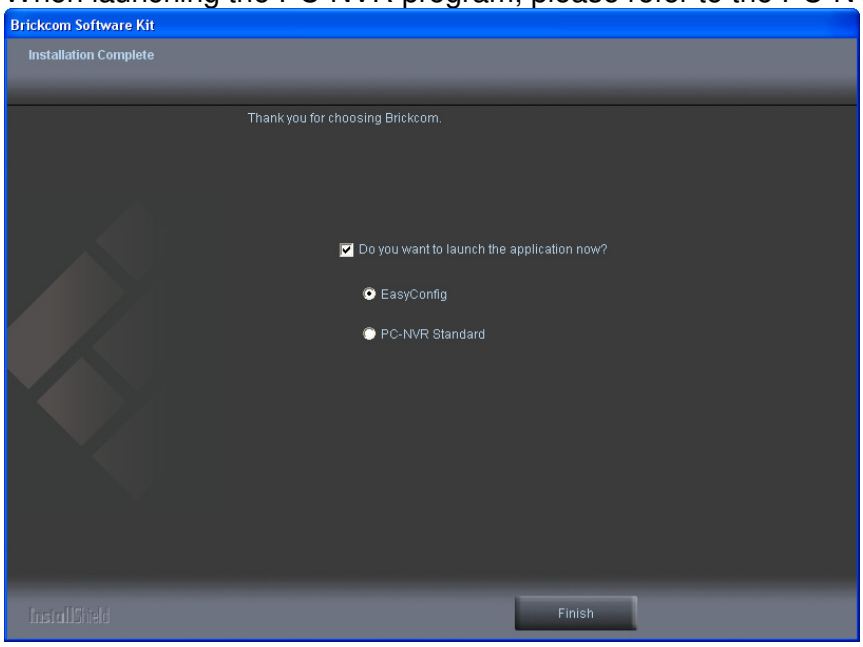
Select to create shortcuts. Click <Next> to continue.


Brickcom Software Kit
Setup Type
Select the setup type that best suits your needs.
The InstallShield Wizard has successfully installed Brickcom Software Kit. Click Next to continue.
Create Desktop Shortcut
Create Quick Launch Shortcut
Create StartMenu Shortcut
InstallShield
Next >

The installation information will be displayed. Click <Next> to continue.



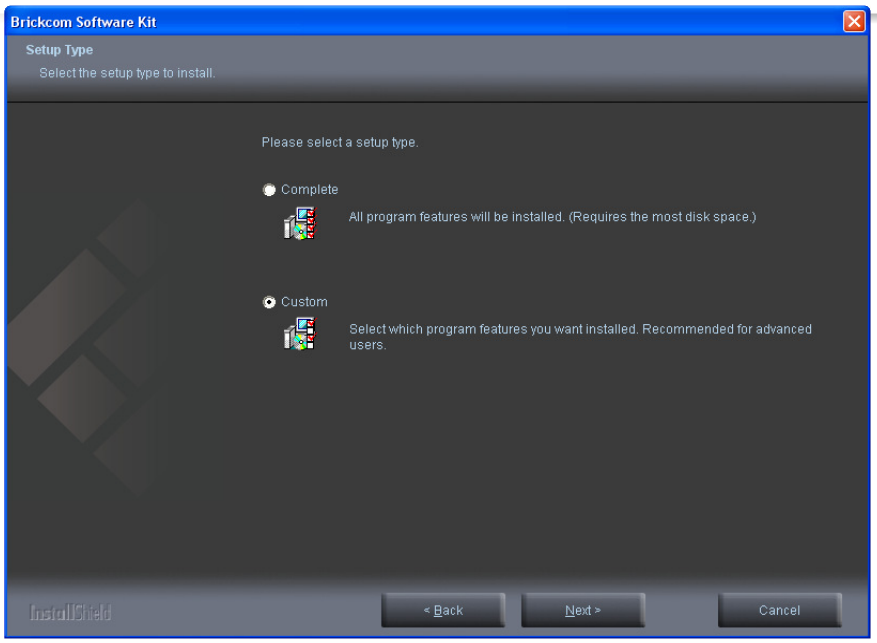
To launch EasyConfig or PC-NVR Standard, select the application and click <Finish>. When launching the PC-NVR program, please refer to the PC-NVR user manual.



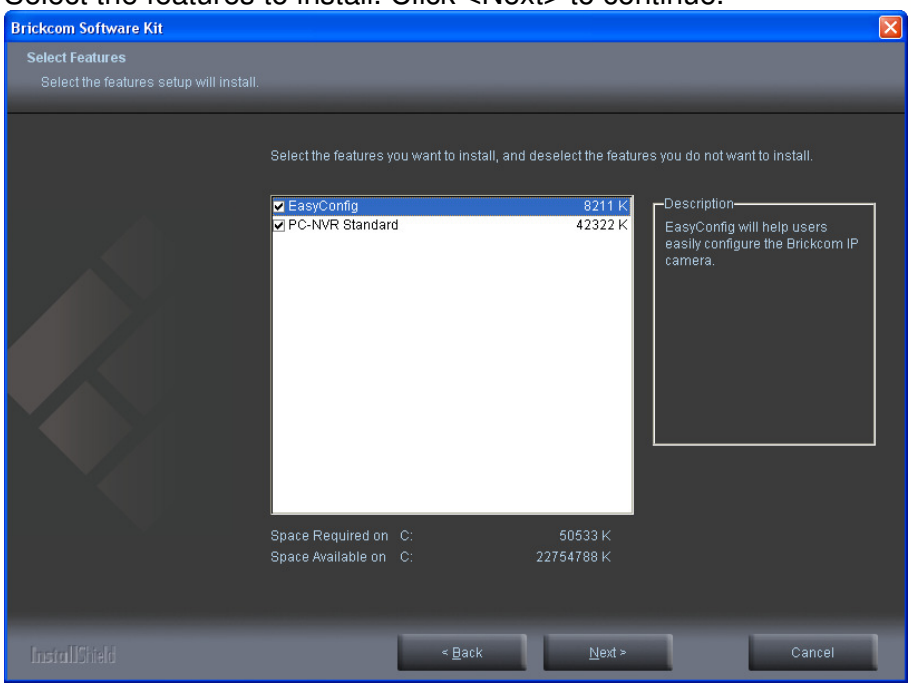
If CUSTOM SETUP is selected:

This option is recommended for advanced users. It can be used to install the system to a preferred directory or to select specific program feature(s).

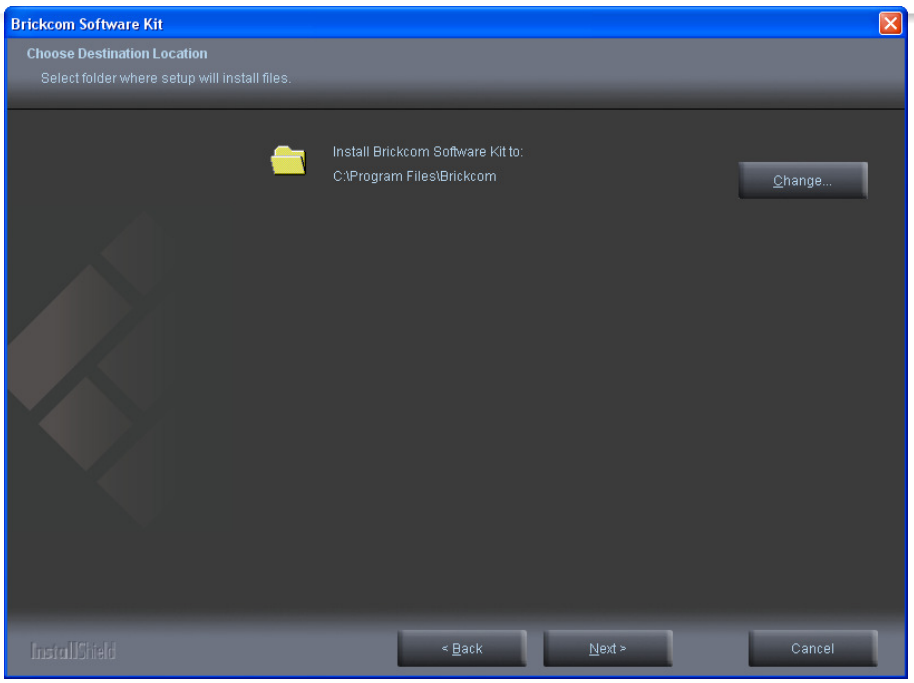
Check the option “Custom”, and then click <Next>.


Brickcom Software Kit
Setup Type
Select the setup type to install.
Please select a setup type.
Complete
All program features will be installed. (Requires the most disk space.)
Custom
Select which program features you want installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

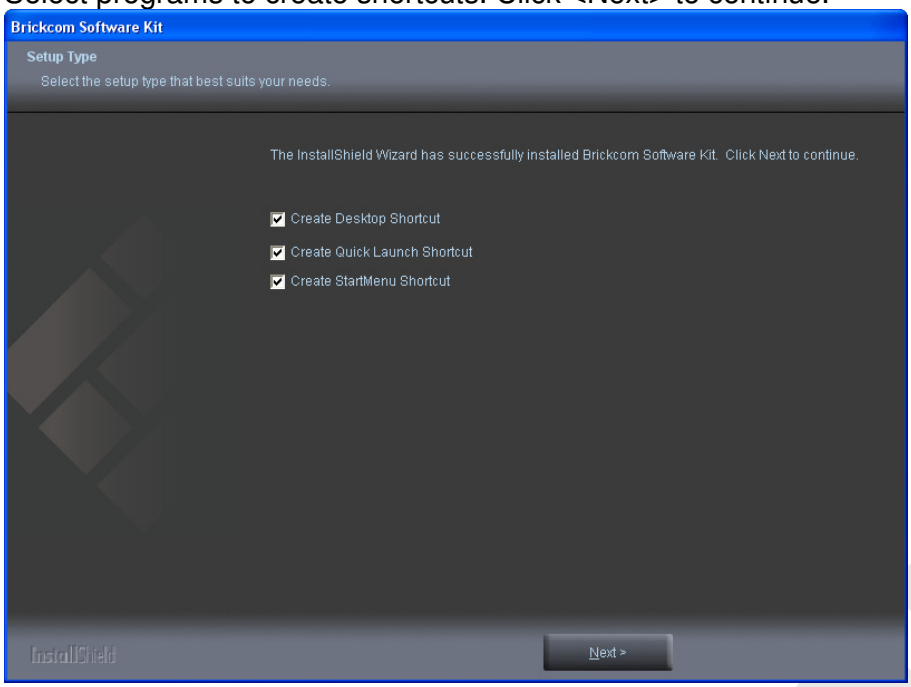
Select the features to install. Click <Next> to continue.


Brickcom Software Kit
Select Features
Select the features setup will install.
Select the features you want to install, and deselect the features you do not want to install.
EasyConfig 8211 K
PC-NVR Standard 42322 K
Description
EasyConfig will help users easily configure the Brickcom IP camera.
Space Required on C: 50533 K
Space Available on C: 22754788 K
InstallShield
< Back
Next >
Cancel

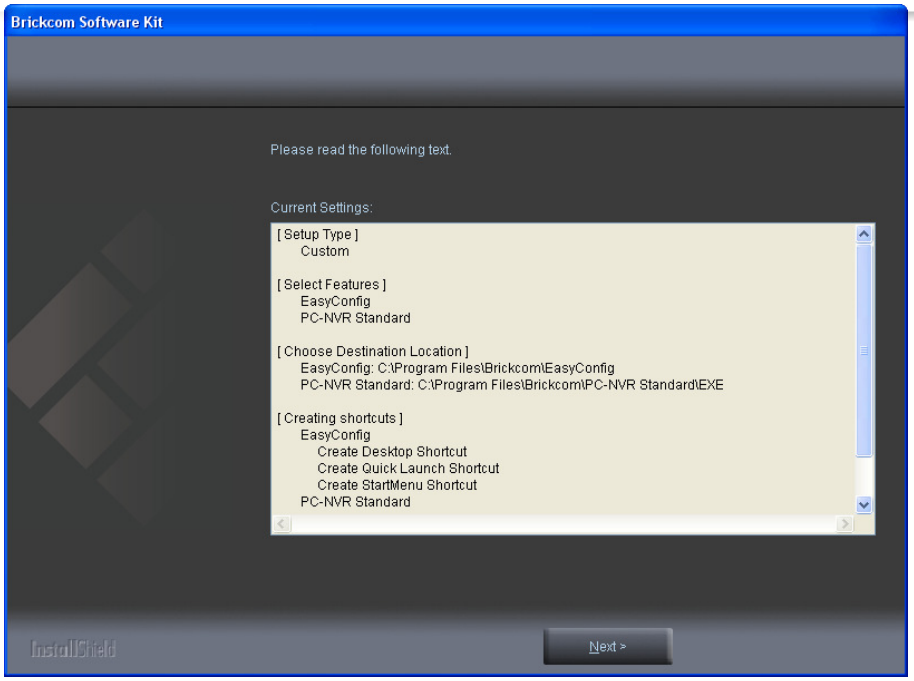
Click <Change> to change the appointed folder where installation and program files will be stored. Click <Next> to continue.



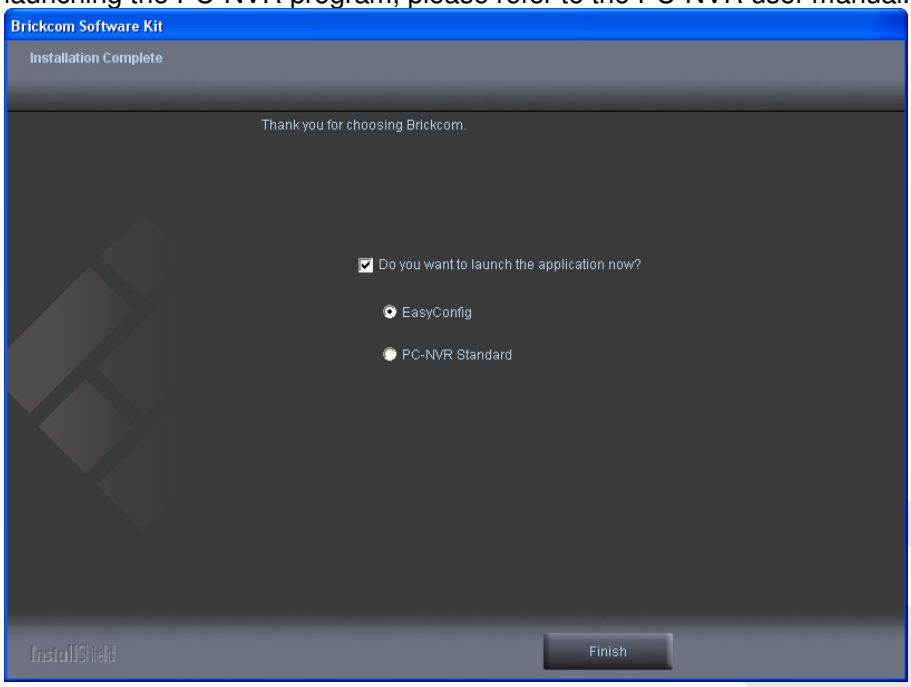
Select programs to create shortcuts. Click <Next> to continue.


Brickcom Software Kit
Setup Type
Select the setup type that best suits your needs.
The InstallShield Wizard has successfully installed Brickcom Software Kit. Click Next to continue.
Create Desktop Shortcut
Create Quick Launch Shortcut
Create StartMenu Shortcut
InstallShield
Next >

The installation information will be displayed. Click <Next> to continue.



To launch EasyConfig or PC-NVR Standard, select the application and click <Finish>. When launching the PC-NVR program, please refer to the PC-NVR user manual.

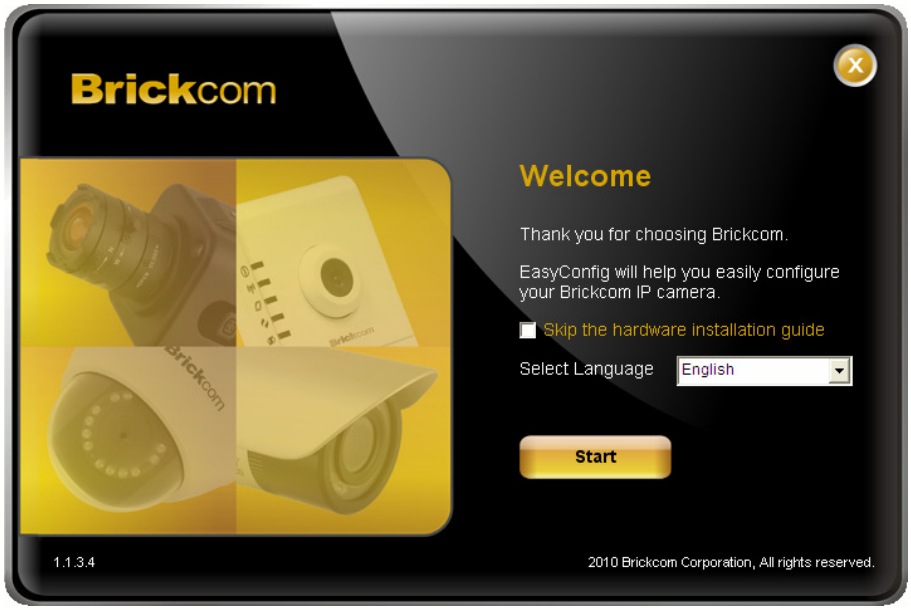


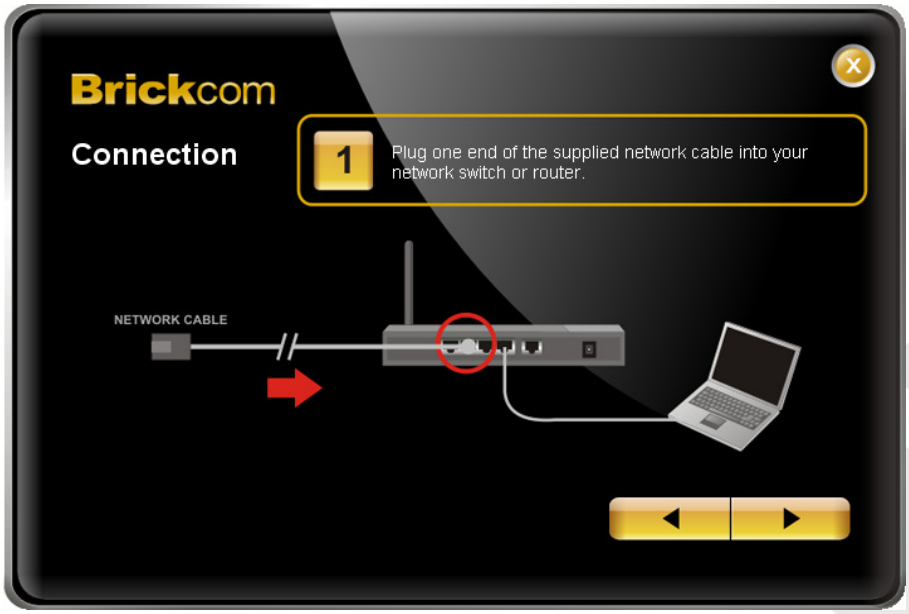
EasyConfig

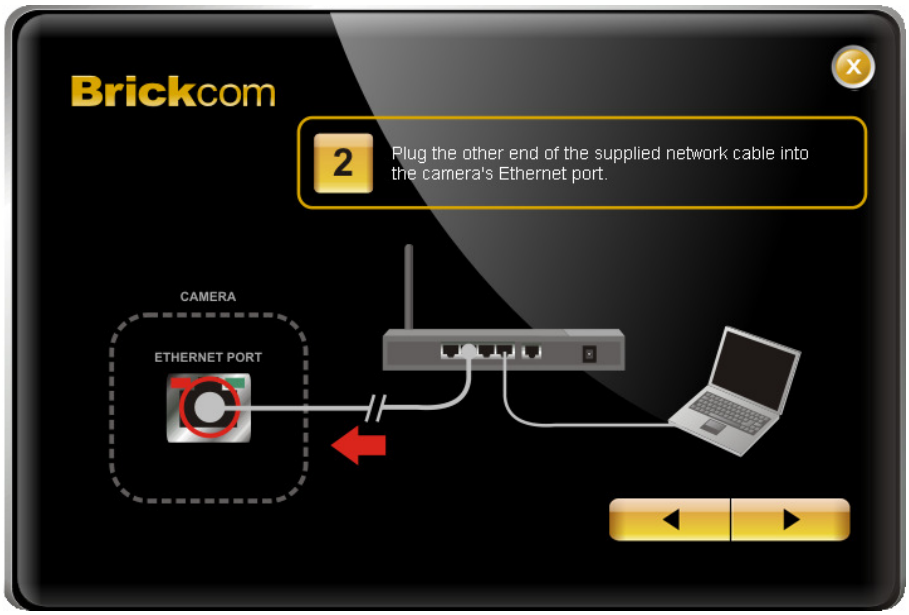
To launch EasyConfig, select EasyConfig from the start menu. If Complete Setup type was used in the software installation, an EasyConfig icon was installed on the desktop. Double click to open the icon.

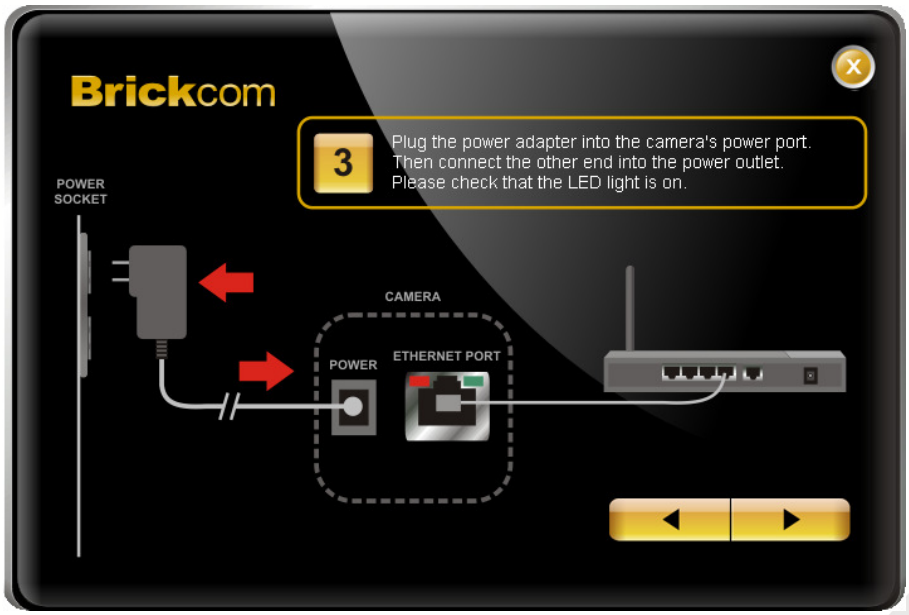
If Custom Setup type was used in the software installation and an EasyConfig icon was not installed on the desktop, the program will be installed under C:\Program Files\Brickcom\EasyConfig unless the program was saved to a preferred directory.
Click <Start> to continue. The program will automatically search for the camera in the intranet.

NOTE - Check “Skip the hardware installation guide” to skip checking the hardware connection. To check the hardware installation settings, do not check the option box.





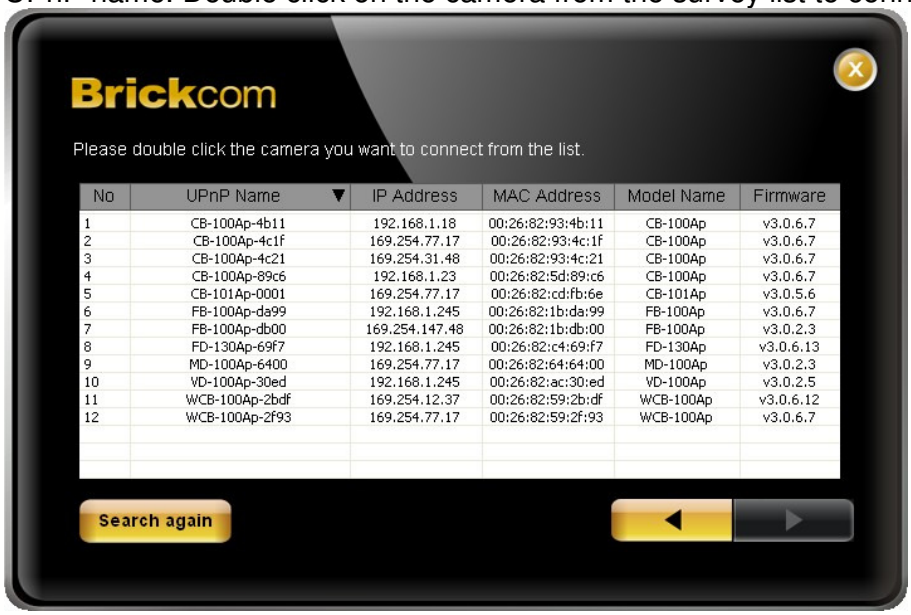




Select either “Simple Mode” or “Professional Mode” to obtain the camera’s IP settings. If “Simple Mode” is selected, EasyConfig will set up the connection automatically. If “Professional Mode” is selected, the user will need to configure the IP settings manually.

Brickcom
If simple mode is selected, the easy configuration program will set up the connection automatically. If professional mode is selected, the user will need to configure the IP manually. The DHCP setting is recommended. If user wants to set the IP address manually, please refer to the product user manual.
Simple Mode
Professional Mode

There may be many cameras in the local network. Differentiate the cameras using their UPnP name. Double click on the camera from the survey list to connect.



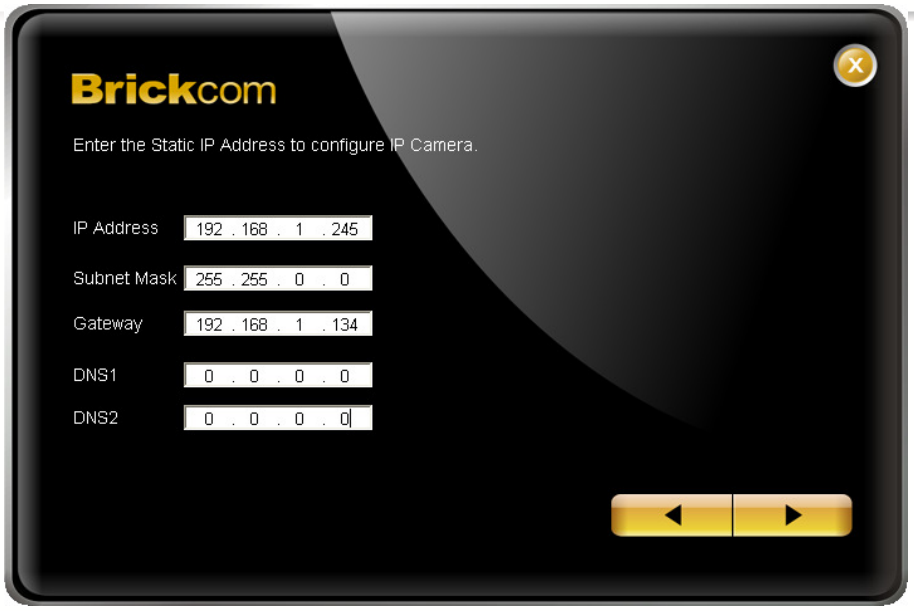
No	UPnP Name	IP Address	MAC Address	Model Name	Firmware
1	CB-100Ap-4b11	192.168.1.18	00:26:82:93:4b:11	CB-100Ap	v3.0.6.7
2	CB-100Ap-4c1f	169.254.77.17	00:26:82:93:4c:1f	CB-100Ap	v3.0.6.7
3	CB-100Ap-4c21	169.254.31.48	00:26:82:93:4c:21	CB-100Ap	v3.0.6.7
4	CB-100Ap-89c6	192.168.1.23	00:26:82:5d:89:c6	CB-100Ap	v3.0.6.7
5	CB-101Ap-0001	169.254.77.17	00:26:82:cd:fb:6e	CB-101Ap	v3.0.5.6
6	FB-100Ap-da99	192.168.1.245	00:26:82:1b:da:99	FB-100Ap	v3.0.6.7
7	FB-100Ap-db00	169.254.147.48	00:26:82:1b:db:00	FB-100Ap	v3.0.2.3
8	FD-130Ap-69f7	192.168.1.245	00:26:82:c4:69:f7	FD-130Ap	v3.0.6.13
9	MD-100Ap-6400	169.254.77.17	00:26:82:64:64:00	MD-100Ap	v3.0.2.3
10	VD-100Ap-30ed	192.168.1.245	00:26:82:ac:30:ed	VD-100Ap	v3.0.2.5
11	WCB-100Ap-2bdf	169.254.12.37	00:26:82:59:2b:df	WCB-100Ap	v3.0.6.12
12	WCB-100Ap-2f93	169.254.77.17	00:26:82:59:2f:93	WCB-100Ap	v3.0.6.7

For configuring the IP address settings, select either <Settings remain the same>, <Automatically obtain an IP Address (DHCP)> or <Set IP Address configuration manually>. The DHCP setting is recommended.

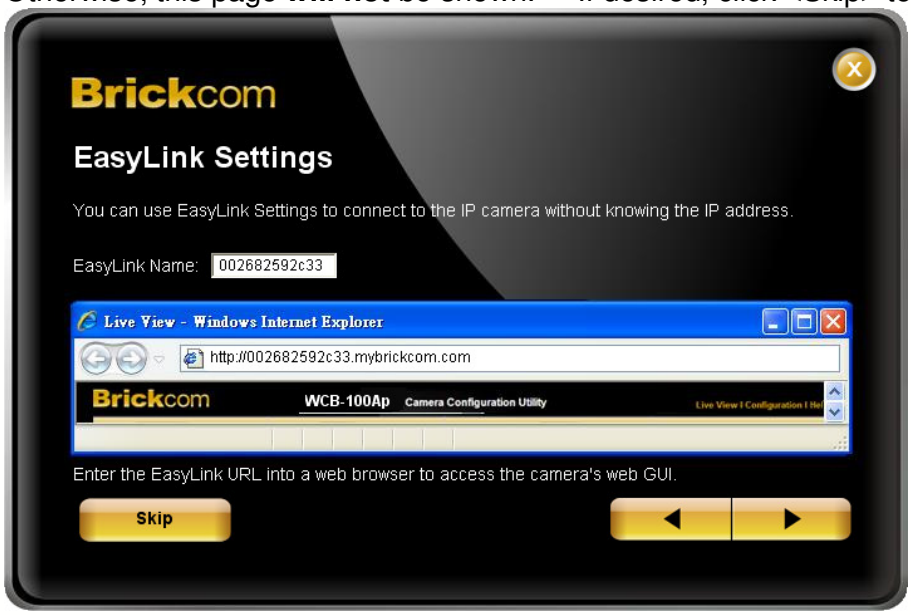
Brickcom
Select the IP Address settings.
Settings remain the same
Automatically obtain an IP Address (DHCP)
Set IP Address configuration manually

If <Set IP Address configuration manually> is selected, the following pages will be displayed.

Brickcom
Select the IP Address settings.
Settings remain the same
Automatically obtain an IP Address (DHCP)
Set IP Address configuration manually


Brickcom
Enter the Static IP Address to configure IP Camera.
IP Address 192 . 168 . 1 . 245
Subnet Mask 255 . 255 . 0 . 0
Gateway 192 . 168 . 1 . 134
DNS1 0 . 0 . 0 . 0
DNS2 0 . 0 . 0 . 0

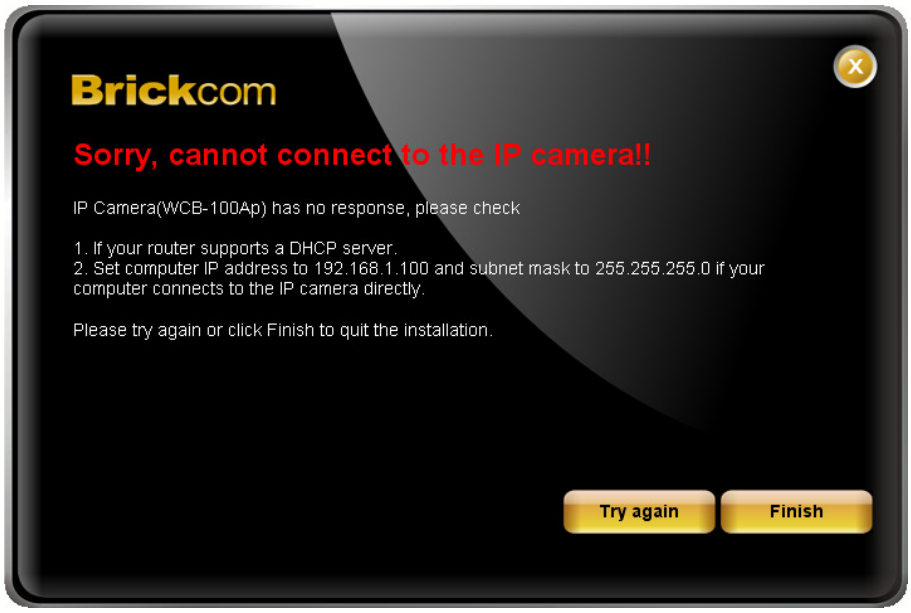
If the camera supports the EasyLinkTM function, the following page **will** be displayed. Otherwise, this page **will not** be shown. *If desired, click <Skip> to skip this setting.


Brickcom
EasyLink Settings
You can use EasyLink Settings to connect to the IP camera without knowing the IP address.
EasyLink Name: 002682592c33
Live View - Windows Internet Explorer
http://002682592c33.mybrickcom.com
Brickcom WCB-100Ap Camera Configuration Utility
Enter the EasyLink URL into a web browser to access the camera's web GUI.
Skip

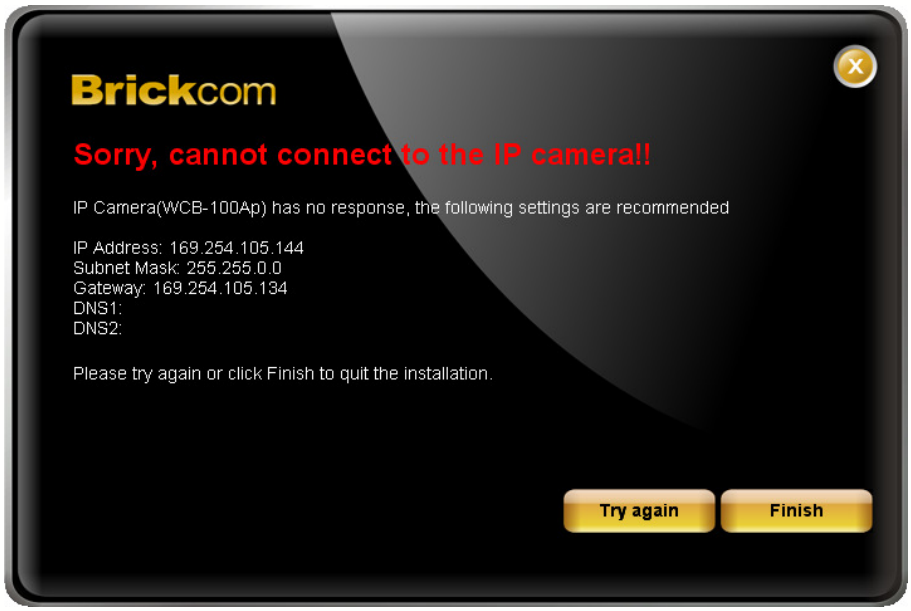
EasyLinkTM is a unique Brickcom function which allows users to assign a unique EasyLink name to their network camera's IP address. There is no need to configure the router to open up ports or remember hard-to-memorize IP addresses. Users can log onto [uniqueEasyLinkname].mybrickcom.com to view the camera's web GUI and live view.

Enter a unique EasyLink name whose length must be between 5-32 characters.
When finished, click the arrow button to continue.

When the IP address settings have been configured, the screen will either display a successful or failed connection message. If the connection failed, either try again or quit the installation.
If "DHCP IP address settings" was selected, the failure page will be displayed as below:


Brickcom
Sorry, cannot connect to the IP camera!!
IP Camera(WCB-100Ap) has no response, please check
1. If your router supports a DHCP server.
2. Set computer IP address to 192.168.1.100 and subnet mask to 255.255.255.0 if your computer connects to the IP camera directly.
Please try again or click Finish to quit the installation.
Try again
Finish

If "Static IP address settings" was selected, the failure page will be displayed as below:



If the connection was successful, the user will see the message: "Congratulations. The installation of the camera is complete."
When this window is displayed, click <PC-NVR> to start the PC-NVR program, <Live View> to view the live video from the connected IP camera, or <X> in the top right corner of the screen to close the installation window. If the user starts the PC-NVR program, please refer to the PC-NVR user manual.

Once installation is complete, the Administrator should proceed to the next section "Accessing the Network Camera" for necessary changes and configurations.